



PREVENTIVE MEDICINE – TACKLING OVER-OPTIMISM AND SHORT-TERM THINKING

Text by Dr Wong Tien Hua

“Prevention is better than cure.” This old adage is self-explanatory yet hard to follow. If everyone took prevention seriously, we would no longer see anyone smoking; there would be very few obese people, and our park connectors would be packed daily with regular joggers and cyclists, instead of “weekend warriors”.

Indeed, knowing what is good for one’s health does not necessarily translate to action.

Economists have tried to base predictions and construct models on the assumption that every human being behaves logically and is able to make rational decisions that ensure maximum returns, based on self-interest – the so-called “homo economicus”. In his seminal book *The Wealth of Nations*, Adam Smith wrote that: “It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest.”

In the context of disease prevention, most people know that smoking has serious consequences on health, that overeating will lead to obesity, and that exercise improves general health and stamina. It therefore seems reasonable to expect people, in the name of self-interest, to adopt a healthier lifestyle. In reality, however, there are many barriers to disease prevention, such as poor healthcare literacy and cognitive biases.

Optimism and overconfidence

People can be surprisingly over-optimistic to the point of being unrealistic. This is a pervasive feature of human behaviour and it cuts across socio-economic categories.

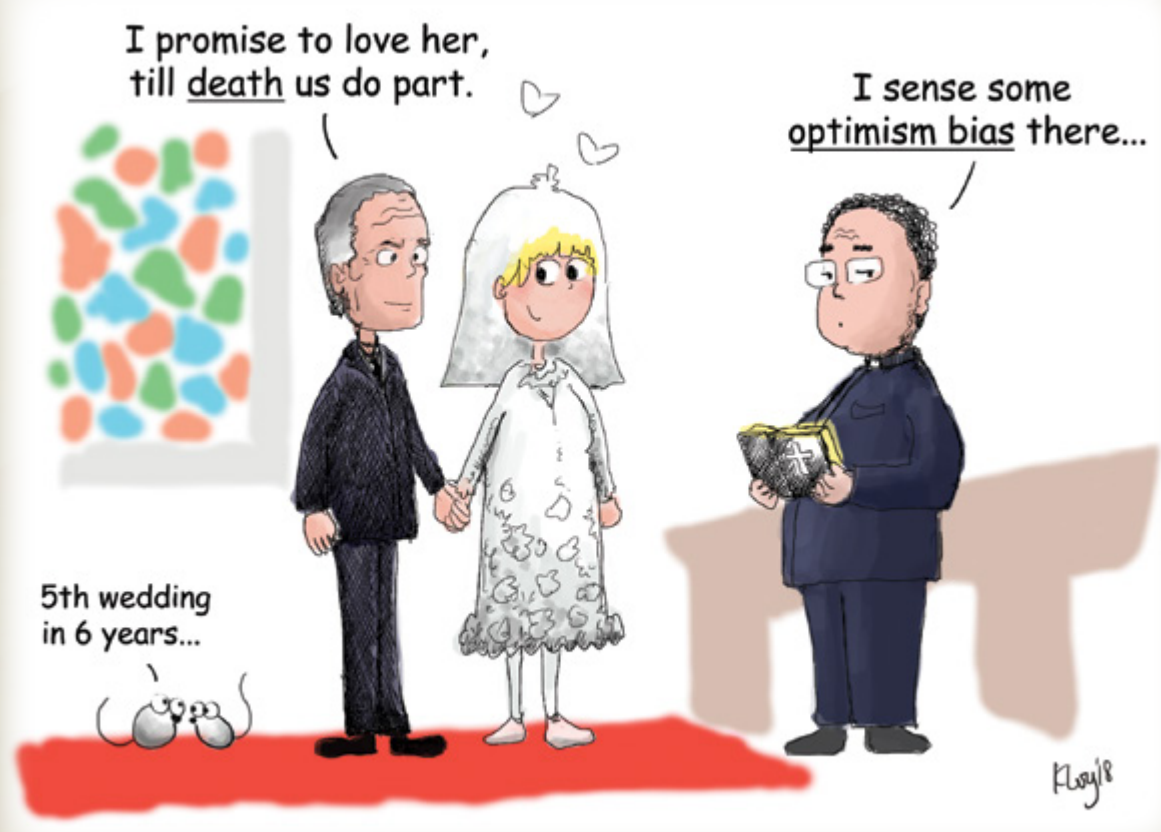
Optimism bias is a cognitive error that leads a person to believe that he or she is at a lower risk of suffering an adverse event. The bias

is more evident when the adverse event is rare and when there is a perceived distance between oneself and those who suffer the adverse event; for example, belonging to different cultural or social groups.

Drivers often overestimate their ability to drive and hence believe that they are somehow less at risk of getting into an accident. If there were no strict law enforcement measures put in place and if vehicles weren’t designed to trigger a persistent reminder alarm, many drivers would not be wearing their seatbelts.

Marriage is another example of optimism bias. According to a report by the Department of Statistics, there were 27,971 marriages and 7,614 divorces in Singapore in 2016.¹ Although not as alarming as the figure of 50% of marriages that end in divorce quoted in the US, you

Illustration: Dr Kevin Loy



can be sure that almost no one believes that their marriages will end in separation on the day of solemnisation. Oscar Wilde once quipped: "Marriage is the triumph of imagination over intelligence. Second marriage is the triumph of hope over experience."

In healthcare, we see smokers who continue to smoke despite having full knowledge of the consequences. Even when the effects of addiction are put aside, many do not believe that they will be the ones who develop cancer. Weinstein's paper on tobacco control found that smokers persistently underestimate their risk of lung cancer, both relative to other smokers and to non-smokers, and engage in risk minimisation by convincing themselves that they smoke less than others or are less addicted.² Weinstein described this behaviour as "unrealistic optimism".

Similarly, predictive tests for chronic diseases may not generate the response that healthcare providers want, because even when high-risk individuals are identified, they may not actually believe that they will get the disease. The Diabetes Risk Assessment tool is a questionnaire designed to determine if a respondent is at high risk of developing diabetes, based on their age, gender, body mass index and family histories of type 2 diabetes and hypertension. Individuals who are identified to be at high risk will be asked to go for a fasting blood sugar test. I would not be surprised if the response to the screening effort is low because of optimism bias.

Delayed gratification

Humans tend to prefer short-term gains over long-term goals. It is difficult to resist the temptation of an immediate reward that is in

front of you, and what is good for you in the long run usually seems like a distant future that is not readily evident. When there is an abundance of food on the table, we often hear our fellow diners urge each other to "enjoy the meal now and leave the dieting for tomorrow".

The ability to exercise self-control may even be hard-wired at an early age. In the Stanford Marshmallow Experiment conducted in the 1960s, children were offered a choice between one marshmallow that they could have immediately in front of them, or two marshmallows 15 minutes later, during which the tester would leave the room and return when the time was up. Follow-up studies of these children conducted years later showed that those who delayed their gratification and received two marshmallows performed better academically, had more social competence and were better able to



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cope with stress. They were able to plan ahead and think rationally. A person's ability to delay gratification relates to self-regulation skills, such as patience, self-control and willpower. It would be interesting to see whether these children had lower incidences of smoking and obesity rates and enjoyed better health outcomes as well.

Longevity

Singapore's life expectancy rate at birth is one of the highest in the world, at 82.9 years in 2016, a big jump from 75.3 years in 1990.³ Although most high income countries have seen their life expectancy rates rise over the past decades, it was the faster pace of increase in Singapore that was remarkable. The gain in life expectancy was driven by declining mortality rates for cardiovascular diseases and cancer among those aged 50 years and above.

Such longevity makes the notion of prevention and long-term planning all the more important and should stimulate a discussion about mindset change. If one is to seriously think about living past 80 years old, one must apply the right financial planning, adopt a different attitude towards retirement, live a healthy lifestyle and take the control of chronic diseases seriously. Indeed, some of our youths among us today could very well expect to live past 100 years.

The War on Diabetes

The Ministry of Health's (MOH) War on Diabetes was launched by Health Minister Gan Kim Yong during his budget speech in parliament in April

2016, and is a good example of the challenges faced in a nation-wide prevention programme. Healthcare providers need to take into account the following different factors at play when designing a prevention programme.

The myth that diabetes only affects the elderly or the obese needs to be addressed. With *one in three* Singaporeans having a lifetime risk of getting diabetes and with younger patients being diagnosed because of early screening, the statistics are alarming. Yet, I am not surprised that many do not believe that they could be afflicted with diabetes and hence will not be receptive to preventive measures. The call to reduce sugar intake and refined carbohydrates is a tall order for the general population, because sweets and desserts come in attractive packaging and present immediate gratification. Sugar is highly addictive because it provides a pleasurable sensation, generating a craving in the brain for more.

The strategy to tackle this chronic disease will need to take place on multiple fronts, with constant reminders to change behaviour through education, the application of choice architecture and gentle “nudges” in the form of incentives and rewards.

Singapore is taking this seriously by adopting a whole-of-nation approach. You would have noticed the “Let's Beat Diabetes” campaign on posters and in print, on the sides of buses and taxis, as well as on television in the form of creative media featuring a martial arts exponent fighting off hidden sugars. The Health Promotion Board is also actively engaging the population, through the National

Steps Challenge, to encourage an active lifestyle. Plans are underway to provide even more “healthier choice” dining options at food centres and food items labelled with the Healthier Choice Symbol. There have been efforts to work with beverage manufacturers to reduce the level of sugar in sugar-sweetened beverages and plans to install more water dispensers to encourage the drinking of plain water. Since 1 September 2017, MOH has rolled out the enhanced national Screen for Life programme, sending letters to eligible Singaporeans aged 40 and above to have their blood pressure, fasting glucose and cholesterol checked at participating GP clinics. ♦

References

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